The idea that improving efficiency makes sustainability problems worse seems counter-intuitive. But what if aiming to do more with less is actually doing the wrong thing right? If sustainability is our concern, this is almost always the case.

Doing more with less means we end up doing so much more that as a society we ultimately end up using more overall. This is called the Jevons Effect. It has been known for at least 147 years, though of course not commonly. If it was, we might be living sustainably by now. Recently, however, the problem of efficiency has been thrust back into the spotlight.

Amory Lovins and David Owen are two of the most prominent thinkers on the topic, with opposing views. Owen’s new book is *The Conundrum: how scientific innovation, increased efficiency, and good intentions can make our energy and climate problems worse*, and it includes the debate between the two that occurred after the publishing of Owen’s earlier feature article in The New Yorker in late 2010. We’ve been using this article with our postgraduate sustainability students at Swinburne University’s National Centre for Sustainability. We’ll now use the book, as students examine the issue in some detail.

Out with the old, in with the new: a woman gazes at an exhibition of e-waste. Flickr/drspam

The Conundrum was last month featured on Radio National’s Life Matters program, during which the host Natasha Mitchell said that it left her feeling impotent and pessimistic. This is very different to the reactions we get in the classroom.

Exploring the implications of the Jevons Effect often engenders a sense of empowerment and a resurgence of hope. After all, if acting on a belief in technology as the answer, and efficiency as the key, is proving counter-productive - and there is plenty of evidence to suggest that it is - then here is a logical framework for understanding why that is happening, and how we might explore real sources of sustainability.

Lovins’ famous counter to Owen’s argument is that efficiency is “a lunch you’re paid to eat”; a more efficient car uses less energy, saving the environment while saving you money. But as Owen puts it, the world hasn’t lost weight by being paid to eat. Improving efficiency almost always results in increased aggregate consumption.

This has also been called the Rebound Effect, but it is more pernicious than that. Owen suggests it might be better termed the Chain Effect. As we improve efficiency in one thing, say the fridge, its reduced costs make it accessible to more of us. And we don’t just go on to use bigger fridges and more of them (developing ideas like bar fridges, meat fridges etc.), we create and expand related spin-off cooling technologies, industries and activities. Air conditioning has become a “must”, we expect access to food from all over the world any time of year, and see refrigerated spaces in supermarkets take up increasing amounts of space as our demand for chilled goods increases. All that also conveys the sense that the food we buy will last longer than it does, resulting in increasingly excessive food consumption, and food waste (4 million tons a year in Australia alone). Of course, not only is the food wasted, so too is the energy used to produce, transport, buy, store, and dispose of it.

And as Catherine Simpson outlined recently on The Conversation, we do all this while feeling better about being “green”. With the right car or fridge, we need care less about how we drive, eat and shop.

‘Some kind of existential chasm opens before me while I’m browsing …’ Bret Easton Ellis, from American Psycho. Flickr/avlxyz

*It is time to blow our minds*
So if improving efficiency takes us backwards in sustainability terms, what are we to do? Far from hemming us in to more limited options, we are liberated from the unintended harm stemming from an old, flawed idea. We evolve the eyes for seeing far greater possibilities that serve to engender more care, rather than less, for our impacts upon each other and the rest of nature. We set our minds towards creating systems and institutions that help us live in more considerate, fulfilling, and less materially intensive ways. Past a certain material threshold, which most of us have passed in this country, these qualities very often go hand in hand.

There is plenty of evidence indicating diminishing returns in quality of life beyond certain thresholds of energy use and economic growth, while environmental impacts continue to grow (and these are far from limited to climate change). The renowned work of Vaclav Smil and others suggests that in many industrialised countries like Australia, this threshold has been surpassed, and in a big way.

Improving efficiency is very often doing the wrong thing right. Perhaps we would do better to think about efficiency in terms of evolving more (wellbeing, wisdom, care, etc) with less, rather than doing more for its own sake. What we do and why, are far more important questions than how. The former needs to guide the latter, rather than the reverse.

Comments welcome below.